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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,417	12/21/2001	Allen Houston	673-1031	5746

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BARNES & THORNBURG
P.O. BOX 2786
CHICAGO, IL 60690-2786

EXAMINER

SHAW, PELING ANDY

ART UNIT PAPER NUMBER

2144

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,417

Applicant(s)

HOUSTON ET AL.

Examiner

Peling A. Shaw

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2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/12/2003.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. This application has no priority claim made. The filing date is 12/21/2001.

Specification

2. The abstract is objected due to improper references to "Fig. 2". It should be removed.

Claim Rejections - 35 USC § 112, second paragraph

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph as following:

- a. Claim 2 recites the limitation of "... derive at least some of the entries in said second database from respective entries in said first database ..." twice consecutively. For the purpose of applying art, the repeated second time is ignored.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Callon et al. (US 5251205 A), hereinafter referred as Callon.

- a. Regarding claim 1, Callon disclosed an apparatus for routing data packets in a network comprising a plurality of nodes each arranged to support one or both of a

first and second set of one or more protocols (column 3, line 13-36), the apparatus being included, in use, in a first network node which is associated with at least one database (column 1, line 66-column 2, line 5), the apparatus being arranged to create entries in said at least one database, each entry relating to at least one respective path from said first network node to a respective destination node in the network, wherein the apparatus is arranged to determine (Fig. 5A and 5B; column 21, line 67-column 23, line 61; column 52, line 20-52), when creating an entry in respect of at least one path to a destination node, if said destination node supports both of said first and second protocol sets, and being further arranged, upon so determining, to associate information with said entry identifying said destination node as a dual router (Fig. 5A and 5B; column 21, line 67-column 23, line 61), and wherein the apparatus is further arranged, when creating subsequent entries in respect of paths to other destination nodes which paths include said destination node, to associate said identifying information with said subsequent entries (Fig. 5B; column 21, line 67-column 24, line 46).

- b. Regarding claim 2, Callon disclosed an apparatus as claimed in claim 1, said first network node including a first database (Fig. 5C; column 52, line 53-64) for holding entries in respect of tentative paths to destination nodes, and a second database for holding entries in respect of shortest paths to destination nodes (Fig. 5B; column 52, line 20-52), the apparatus being arranged to derive at least some of the entries in said second database from respective entries in said first database (Fig. 5B; column 23, line 62-column 24, line 46).

- c. Regarding claim 3, Callon disclosed an apparatus as claimed in claim 2, wherein the apparatus is arranged to determine if a destination node supports both of said first and second protocols when creating an entry in said second database (Fig. 5B; column 23, line 62-column 24, line 46), and to associate said identifying information with the, or each, entry in the first database which is subsequently derived from said entry in the second database (Fig. 5C; column 24, line 47- column 28, line 10).
- d. Regarding claim 4, Callon disclosed an apparatus as claimed in claim 3, wherein the apparatus is arranged to associate said identifying information with one or more subsequent entries in said second database derived from the, or each, of said first database entries (Fig. 5B; column 23, line 62-column 24, line 46).
- e. Regarding claim 5, Callon disclosed an apparatus as claimed in claim 2, wherein, in respect of an entry added to said second database, the apparatus is arranged to create selectively a respective entry in said first database in respect of at least one path to the, or each, network node that is adjacent the destination node to which said added second database entry relates (Fig. 5B; column 23, line 62-column 24, line 46).
- f. Regarding claim 6, Callon disclosed an apparatus as claimed in claim 2, wherein each entry includes an indicator of the cost of sending a data packet from the first node to the destination node of the entry, the apparatus being arranged to create an entry in said second database in respect of the entry in the first database having the lowest cost indicator (Fig. 5B; column 23, line 62-column 24, line 46).

- g. Regarding claim 7, Callon disclosed an apparatus as claimed in claim 1, wherein the apparatus is arranged to include said identifying information in each relevant database entry (Fig. 5B; column 23, line 62-column 24, line 46).
- h. Regarding claim 8, Callon disclosed an apparatus as claimed in claim 7, in which each database entry relating to at least one path to a destination node includes, in respect of the, or each path, a respective dual protocol field for carrying said identifying information, wherein the, or each, dual protocol field may be set to identify a dual router in the respective path, or to indicate that no known dual router exists in said respective path (Fig. 5A and 5B; column 21, line 67-column 24, line 46).
- i. Regarding claim 9, Callon disclosed an apparatus as claimed in claim 8, wherein, when creating an entry in respect of at least one path to a destination node, the apparatus is arranged to determine if the destination node supports both of said first and second protocol sets only if at least one of the, or each, dual protocol field is set to indicate that no known dual router exists in the respective path (Fig. 5A and 5B; column 21, line 67-column 24, line 46).
- j. Regarding claim 10, Callon disclosed an apparatus as claimed in claim 9, whereupon determining that said destination node supports both of said first and second protocol sets, the apparatus is arranged to set the respective dual protocol field to identify said destination node (Fig. 5A and 5B; column 21, line 67-column 24, line 46).
- k. Regarding claim 11, Callon disclosed an apparatus as claimed in claim 8, wherein each of said entries further includes at least one adjacent node field for identifying

which adjacent node of said first node is the first node in said path to the destination node, and wherein the, or each, adjacent node field is associated with a respective dual protocol field (Fig. 5A and 5B; column 21, line 67-column 24, line 46).

- l. Regarding claim 12, Callon disclosed an apparatus as claimed in claim 1, wherein the network nodes are arranged to implement one or more Link State Protocols and wherein said first network node includes a third database for storing routing data packets that are distributed by each other network node in accordance with the, or each, Link State Protocol, the apparatus being arranged to examine the respective routing data packet issued by a destination node in order to determine if said destination node supports one or both of said first and second protocol sets (column 11, line 7-25; column 22, line 43-50).
- m. Regarding claim 13, Callon disclosed an apparatus as claimed in claim 12, wherein at least the network nodes that support both of said first and second protocol sets are arranged to support Integrated IS-IS Link State Protocol, the apparatus being arranged to examine the "protocols supported" field of the respective routing data packets (column 4, line 29-34; column 39, line 67-column 40, line 6).
- n. Regarding claim 14, Callon disclosed an apparatus as claimed in claim 1, wherein said first and second protocol sets each comprise an OSI protocol set or an IP protocol set (column 39, line 67-column 40, line 6).
- o. Regarding claim 15, Callon disclosed a network node comprising an apparatus as claimed in claim 1 (Fig. 1A; column 21, line 5-21).

- p. Regarding claim 16, Callon disclosed a heterogeneous network comprising one or more network nodes comprising an apparatus as claimed in claim 1 (Fig. 1A, 2A and 3; column 21, line 5-21).
- q. Regarding claim 17, Callon disclosed in an apparatus for routing data packets in a network comprising a plurality of nodes each arranged to support one or both of a first and second set of one or more protocols (column 3, line 13-36), the apparatus being included, in use, in a first network node which includes at least one database (column 1, line 66-column 2, line 5), the apparatus being arranged to create entries in said at least one database, each entry relating to at least one respective path from said first network node to a respective destination node in the network (Fig. 5A and 5B; column 21, line 67-column 23, line 61; column 52, line 20-52), a method of identifying dual routers, the method comprising: determining, when creating an entry in respect of at least one path to a destination node, if said destination node supports both of said first and second protocol sets (Fig. 5A and 5B; column 21, line 67-column 23, line 61; column 52, line 20-52); associating, upon so determining, information with said entry identifying said destination node as a dual router (Fig. 5A and 5B; column 21, line 67-column 24, line 46; column 52, line 20-52); and, when creating subsequent entries in respect of paths to other destination nodes which paths include said destination node, associating said identifying information with said subsequent entries (Fig. 5B; column 21, line 67-column 24, line 46).

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- r. Regarding claim 18, Callon disclosed a computer program product comprising computer useable instructions for causing a computer to implement the method claimed in claim 17 (column 1, line 5-13).

Callon disclosed all limitations of claims 1-18. Claims 1-18 are rejected under 35 U.S.C.

102(b).

Remarks

5. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Keats et al. (US 6820120 B1) Routing of data packets in heterogeneous networks
- b. Guerin et al. (US 20030072270 A1) Method and system for topology construction and path identification in a two-level routing domain operated according to a simple link state routing protocol

Conclusion


6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas


DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER